EXHIBIT A

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	: Stephen K. Pinto et al.	Art Unit	: 2121
Serial No.	: 10/826,947	Examiner	: Tejal Gami
Filed	: April 16, 2004	Conf. No.	: 1606

Title : DIMENSION REDUCTION IN PREDICTIVE MODEL DEVELOPMENT

MAIL STOP AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION IN RESPONSE TO REQUEST FOR INFORMATION IN ACTION DATED MARCH 29, 2007

I, Richard Mansfield, declare:

I am the Chief Architect and Vice President Platform Technologies of Fortelligent, Inc., the assignee of this patent application.

My comments below are each preceded by the related requests of the examiner (in small, bold type).

I) What were the specific details of the modeling system referred to in the admission?

More than a year prior to April 16, 2004, the assignee's employees used individual custom-designed models to generate customer relationship management (CRM) information for customers of the assignee. The individual custom-designed models were each generated manually using the experience, expertise, and knowledge of model developers and the capabilities of commercially available statistical software, in particular, solutions from SAS Institute Inc., North Carolina.

From its records, the assignee is unable to reconstruct the contents of any of the specific individual custom-designed models in use prior to April 16, 2003, or the manner in which they were generated other than as disclosed in the information disclosure statement of May 27, 2005.

a) Do you have any documentation, either hard copies or in electronic form, showing this modeling system? If yes, please provide documentation in response to this interrogatory. Documentation should be interpreted broadly to include, yet not be limited to: press releases,

advertisements, brochures, product manuals, web pages, patents and patent applications (both U.S. and foreign), presentations, technical journals, and product specifications.

None to the best of the undersigned's knowledge.

b) Do any of the parties subject to a duty of disclosure under 37 CFR 1.56 know of where such documentation, as recited above, may be found? Please state the location in response to this question.

See the reply to a) above.

c) Using the language of the claims, what are the specific differences between the modeling system that is mentioned in the admission and the claims?

A claim chart is attached.

d) Were there any other modeling systems created by applicants? If so, please provide specific details of these modeling systems, using the language of the claims, and explain how they differ from the claimed invention.

No other modeling systems were created more than a year before April 16, 2004. Beginning in March 2003, the assignee began to develop a software application to assist users in developing models. Because no available products met identified requirements, a new computer-based modeling system was developed. The architecture and design of the system were complete by June 2003. Implementation of the initial version was complete by November 2003. However, in August 2003, the model project insight feature illustrated in figure 27D was sufficiently complete that customer data was analyzed and the graphical and tabular reports were used in a project for a customer.

e) Were there any other modeling systems created by applicants? If so, please provide documentation of these systems or state where such documentation may be found.

The computer-based modeling system referred to in d) was the sole modeling system created as it provided the required features.

II) Was the modeling system disclosed in the admission the subject of any of the following types of transactions: offered for sale, bartered or exchanged, licensed, donated or given away, or used for experimental use? Please answer the following interrogatories for each transaction.

a) Where did this transaction occur?

b) What were the details of the transaction?

c) What where the details of the system that formed the basis for this transaction?

d) When did this transaction occur?

e) Who were the parties involved in the transaction?

More than a year prior to April 16, 2004, the assignee received raw customer data from customers and transformed the data into customer relationship management (CRM) information (predictive scores) for customers of the assignee using the experience, expertise, and knowledge of model developers and the capabilities of commercially available model creation software, in particular, solutions from SAS Institute Inc., North Carolina. The following table lists the details of these transactions:

Contracting Party	Modeling Service Provided	Model Method	Date of Contract
Cross Country	Response Models for Marketing	Manually developed by skilled model developers/analysts assisted by standard statistical software	Annual Contract, prior to April 2003, with series of contract renewals
Member Works (now Vertue)	Response Models for Marketing	Manually developed by skilled model developers/analysts assisted by standard statistical software	Annual Contract, prior to April 2003, with series of contract renewals
Other parties to whom pitches were made	[details no longer recalled]	[details no longer recalled]	

III) Was the modeling system of this application or of the admission publicly disclosed?

No.

a) Do you have any documentation, either hard copies or in electronic form, showing what was publicly disclosed? If yes, please provide documentation in response to this interrogatory. Documentation should be interpreted broadly to include, yet not be limited to: press releases, advertisements, brochures, product manuals, web pages, presentations, technical journals, and product specifications.

None other than materials already submitted.

b) Do any of the parties subject to a duty of disclosure under 37 CFR 1.56 know of where such documentation, as recited above, may be found? Please state the location in response to this question.

The assignee does not know of the location or of any other party that may know of the location of any such documentation.

4. In response to this requirement, please provide the title, citation and copy of each publication that any of the applicants relied upon to develop the disclosed subject matter that describes the applicant's invention, particularly as to developing "transforming of the variables" and "the adjusting of the population of variables". For each publication, please provide a concise explanation of the reliance placed on that publication in the development of the disclosed subject matter.

In developing the disclosed subject matter, the applicant relied on portions of the items described in its information disclosure statements. With particular regard to "transforming of the variables" and "adjusting of the population of variables," the inventors used their knowledge, experience and expertise along with such literature disclosed in the attached and previous information disclosure statements to develop the recited features. For the examiner's reference, biographies of the inventors are attached as exhibits 1 through 3.

5. In response to this requirement, please provide the title, citation and copy of each publication that any of the applicants relied upon to draft the claimed subject matter. For each publication, please provide a concise explanation of the reliance placed on that publication in distinguishing the claimed subject matter from the prior art.

The inventors are unable to recall any specific such reliance that may have been placed.

6. In response to this requirement, please provide the names of any products or services that have incorporated the claimed subject matter.

OASYS™ Analytic Platform; this product was not offered for sale prior to April 16, 2003.

7. In response to this requirement, please state the specific improvements of the subject matter in claims 1 and 7 over the disclosed prior art and indicate the specific elements in the claimed subject matter that provide those improvements. For those claims expressed as means or steps plus function, please provide the specific page and line numbers within the disclosure that describe the claimed structure and acts.

Attorney's Docket No.: 17146-008001

See the related Response filed by the applicant.

All statements made in this declaration of my own knowledge are true and all statements made on information and belief are believed to be true; and further these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued on the application.

Respectfully submitted,

Date: October 1, 2007 Richard J. Mansfield

Richard Mansfield

EXHIBIT B

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	: Stephen K. Pinto et al.	Art Unit	: 2121
Serial No.	: 10/826,947	Examiner	: Tejal Gami
Filed	: April 16, 2004	Conf. No.	: 1609

Title : PREDICTIVE MODEL VALIDATION

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P.O. Box 1450
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CLAIM CHART

Claim 1	**Comments**
A machine-base method comprising	In the prior approach, the model developers/users used their knowledge, experience and expertise to develop individual custom-designed models *manually* using conventional statistical software package, in particular, software provided by SAS Institute Inc., North Carolina
in connection with a project, generating a predictive model based on historical data about a system being modeled, enabling the user to validate a model development process with a predictive model between at least two subsets of the historical data, and interacting with the system being modeled based on the predictive model.	In the prior approach, the model developers/users used their knowledge, experience and expertise to validate a specific model *manually* using a conventional approach and a conventional statistical software package, in particular, software provided by SAS Institute Inc., North Carolina, rather than "enabling the user to validate a model development process."
Claim 2	
The method of claim 1 in which a user interface display project goals enabling the user to assess model project performance wherein the project goals comprise at least one of: cumulative lift over an interval of interest, degree of monotonicity, or concordance scores.	In the prior approach, the model developers/users used their knowledge, experience and expertise to *manually* develop individual custom-designed models using conventional statistical software package, in particular, software provided by SAS Institute Inc., North Carolina, which could print tables for comparing conventional measures such as cumulative lift, concordance (minimum false negatives or minimum false positives), and monotonicity. In the prior approach, there was no user interface that displayed "project goals enabling the user to assess model project performance …".

Claim 3	
The method of claim 2 also including identifying that the model does not produce at least a predefined degree of lift for at least one of the validation datasets.	In the prior approach, as one criterion of performance, a user manually could use low lift is a conventional heuristic.
Claim 4	
The method of claim 3 also including enabling a user to choose interactively at least one model development criterion change or transformation or interaction of variables to improve a fit of the model.	In the prior approach, the model developers/users manually transformed variables into more predictive variables using conventional statistical tools using expert estimation and guesswork in making additional transformations and interactions. The user was not enabled "to choose interactively at least one model development criterion or transformation or interaction of variables to improve the fit of the model."
Claim 5	
The method of claim 4 also including graphically displaying and comparing measures of performance for the validation dataset and a training dataset.	The prior approach did not include "graphically displaying and comparing measures of performance for the validation dataset and the training dataset." Users could, however, use a third party software package, such as Microsoft Excel, to construct a comparison chart.
Claim 6	
A machine-based method comprising	In the prior approach, the model developers/users used their knowledge, experience and expertise to *manually* develop individual custom-designed models using conventional statistical software package, in particular, software provided by SAS Institute Inc., North Carolina
in connection with a process, generating a predictive model based on historical data about a system being modeled, using a validated model development process, to enable automatic transformations of variables of the data, automatic generation of a predictive model, and automatic generation of performance measures of the predictive model on at least two independent	In the prior approach, the model developers/users used their knowledge, experience and expertise to validate a specific model *manually* using a conventional approach and a conventional statistical software package, in particular, software provided by SAS Institute Inc., North Carolina, rather than using "a validated model development process." In the prior approach, transformations of variables of the data were done manually as were generation of

datasets of historical data, and interacting with the system being modeled based on the predictive model.	performance measures of the predictive model on at least two indepenend data sets.
Claim 7	
The method of claim 6 also including generating measures of the performance of the model for the two datasets, the performance measures being generated separately percentile by percentile	In the prior approach, measurs of the performance of the model for the two datasets was performed manually using conventional statistical tools, expert estimation, and guesswork.
Claim 8	
The method of claim 6 also including graphically displaying and comparing measures of performance for the two datasets.	see notes for claim 5
Claim 9	
The method of claim 6 also including persistently storing the validated model development process and a validated model for computing propensities for at least one target outcome variable, the propensities serving as indices of a score for non-historical data.	In the prior approach, there was no persistent storing of the validated model development process. Model developers/users could, however, save the model equation in a file on a computer along with the computed propensities.
Claim 10	
The method of claim 6 also including providing a user interface for assessing project goals against performance.	In the prior approach, there was no user interface for assessing model project goals against performance; however, the model developers/users could manually compare the project goals against performance.
Claim 11	
The method of claim 6 also including providing a user interface for selecting at least one subset of the historical data in addition to a training subset.	In the prior approach, there was no user interface for selecting at least one subset of the historical data in addition to the training subset; however, the model developers/users could manually generate a subset by writing interpretive code for the conventional statistical package.
Claim 12	
The method of claim 6 providing a user interface for displaying the performance	In the prior approach, there was no user interface for

of the model for at least two subsets of the historical data for an interval of interest.	displaying the performance of the model for at least two subsets of the historical data for an interval of interest. However, users could manually employ another third party software package, such as Microsoft Excel, to construct a comparion chart.
Claim 13	
The method of claim 6 enabling a user to choose interactively at least one transformation or interaction of variables to improve the model validation process.	In the prior approach, the user was not enabled to choose interactively. The model developers/users could, however, manually choose by writing interpretive code for the conventional statistical package. [Richard, is this correct?]
Claim 14	
The method of claim 6 determining whether the model generalizes to the data other than a subsample, and, if so, applying a possible model to all of the data to generate a final model, and cross-validating the final model using random portions of the data.	The prior approach did not include applying a possible model to all of the data to generate a final model or cross-validating the final model using random portions of the data.
Claim 15	
The method of claim 6 providing a user interface that enables the user to select at least one validation dataset and invoke a model process validation method.	The prior approach provided no user interface that enabled selecting a validation dataset and permitted invocation of a model process validation method. However, the model developers/users manually generated such a subset by writing interpretive code for the conventional statistical package.
Claim 16	
The method of claim 6 providing a user interface that enables the user to point and click to cause display of information about the model process validation.	In the prior approach, no user interface enabled the user to point and click to cause display of information about the model process validation.
Claim 17	
The method of claim 16 in which the information about the model process validation includes at least one of: a statistical report card with a link to the statistical report chart, a cumulative lift chart with a link to the cumulative lift chart, and a non-cumulative lift chart with	In the prior approach, no user interface provided information about a model process validation that included at least one of: a statistical report card with a link to the statistical report chart, a cumulative lift chart with a link to the cumulative lift chart, or a non-cumulative lift chart.

a link to the non-cumulative lift chart.	
Claim 18	
The method of claim 17 in which invocation of the link to the statistical report card causes display of the statistics of model process validation.	Not present in a user interface of the prior approach.
Claim 19	
The method of claim 17 in which invocation of the link to the cumulative lift chart causes display of a cumulative lift chart.	Not present in a user interface of the prior approach.
Claim 20	
The method of claim 17 in which invocation of the link to the cumulative lift chart causes display of a non-cumulative lift chart.	Not present in a user interface of the prior appoach.
Claim 21	
The method of claim 17 in which a user is enabled to choose interactively at least one performance criterion change or transformation or interaction of variables to improve the model validation process.	Not enabled in the prior approach.
Claim 22	
The method of claim 6 also including providing a user interface that enables the user to select at least one machine automated model development process applied to the entire dataset for a validated model process.	Not present in the prior approach.
Claim 23	
The method of claim 6 also including providing a user interface that enables the user to point and click to cause display of information about the performance of the validated model process applied to the entire set of historical data.	In the prior approach, there was no user interface that enabled the user to point and click to cause display of such information.
Claim 24	
The method of claim 23 in which the information about the model performance	In the prior approach, no user interface provided

for two independent data subsets includes at least one of the following: a statistical report card with a link to the statistical report chart, a cumulative lift chart with a link to the cumulative lift chart, a non-cumulative lift chart with a link to the non-cumulative lift chart.	information about a model performance for two independent data subsets that included at least one of: a statistical report card with a link to the statistical report chart, a cumulative lift chart with a link to the cumulative lift chart, or a non-cumulative lift chart.
Claim 25	
The method of claim 24 in which the invocation of the link to the statistical report card causes display of the statistics of model process validation.	Not present in the user interface of the prior approach.
Claim 26	
The method of claim 24 in which the invocation of the link to the cumulative lift chart causes display of a cumulative lift chart.	Not present in the user interface of the prior approach.
Claim 27	
The method of claim 24 in which the invocation of the link to the cumulative lift chart causes display of a non-cumulative lift chart.	Not present in the user interface of the prior approach.
Claim 28	
The method of claim 6 also including storing the final model and the model process validation results persistently.	In the prior approach, the model developers/users manually generated interpretive code for the conventional statistical package to persistly store in computer file storage the final model and numeric model validation results.

EXHIBIT C

Dr. Richard Mansfield, Chief Architect

Senior Management Biography

Fortelligent

Dr. Mansfield has more than 15 years of successful, progressive experience in all phases of mission-critical software product and systems development. He is the author or co-author of a number of software patents. His role at Fortelligent is to design and develop Fortelligent's OASYS Analytic Platform™ and to provide technical oversight of Fortelligent's systems, software and processes to ensure optimization for business advantage.

Dr. Mansfield earned his Ph.D. from Harvard University and a Master's from Yale University in Mathematics. He was a Visiting Scholar at the Johns Hopkins School of Medicine as well.

EXHIBIT D

Stephen K. Pinto, Senior Vice President
Senior Management Biography

Fortelligent

Steve Pinto has been at the forefront of predictive analytics for over 30 years. Over that time he has formulated many of the modern-day methodologies used in database marketing and modeling. He is responsible for Product Development, Account Management, and client deliverables at Fortelligent. His prior experience includes:

At Mercer Management Consulting, a global strategy firm, Steve was a Vice President and a lead developer of the Customer Relationship Management practice. He was responsible for developing the worldwide practice for CRM at Mercer. The practice develops analytical CRM program on behalf of diversified Global 2,000 clients and manages those programs on an ongoing basis to help generate increasing shareholder value.

Prior to his work at Mercer Management Consulting, Steve was the Managing Director of the Analytic Consulting Group at Epsilon, a former division of American Express. Steve was responsible for creating and deploying analytical CRM programs on behalf of the largest financial institutions in the country.

Before Epsilon, Steve Co-Founded Applied Research of Cambridge, a worldwide market research firm later acquired by Cap Gemini, a global strategy consulting firm.

Steve is a widely published author on the subject of predictive analytics and is on several editorial boards including the *Journal of Database Marketing.*

EXHIBIT E

Dr. Donald Rubin, Scientific Principal
Senior Management Biography

Fortelligent

Fortelligent's Scientific Advisor is the world-renown statistician, Professor Donald Rubin. His role at Fortelligent has been to contribute to the development of Fortelligent's Platform by designing unique algorithms and methodologies that enable Fortelligent to maintain an ongoing competitive edge.

Professor Rubin is a world-leading thinker in Statistical Science. In 2002 he was one of the most quoted scholars in the field of statistics. Currently he is Chairman of the Statistics Department at Harvard University, a position he has held for 20 years. He is the John L. Loeb Professor of Statistics and key PhD advisor to Candidates for degrees in Statistics at Harvard as well.

Prior roles held at Harvard University include:

- Chairman, Department of Statistics Senior Search Committee
- Director of Graduate Studies, Department of Statistics

Faculty Staff, Program on Educational Policy and Governance

Professor Rubin is a widely known force in the statistical community, having published over 300 articles and book on various statistical-related topics.